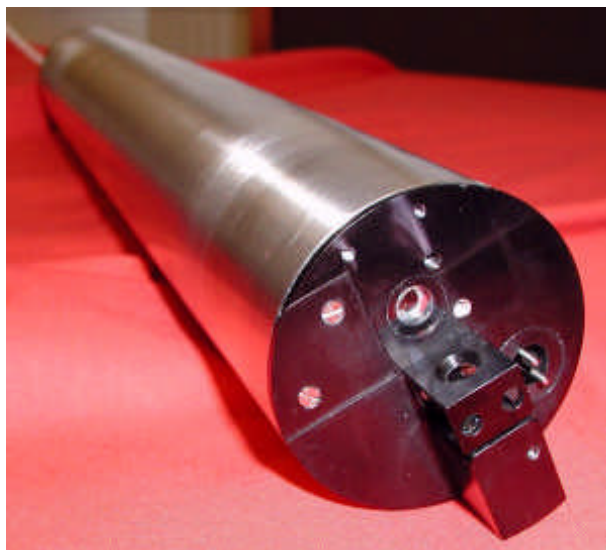


IN-SENSE Water Monitor



- ◆ **Cost effective monitoring of turbidity, conductivity, temperature & pressure**
- ◆ **Built in data logger**
- ◆ **Optional full pressure insertion**

Features of IN-SENSE

- *In-pipe operation*
- *Single point of entry*
- *Continuously monitors turbidity between 0.1 and 20 NTU*
- *Continuously monitors conductivity between 0 and 5000 micro-Siemens per cm.*
- *Continuously monitors temperature between 0 and 30 C*
- *Continuously monitors pressure between 0 and 12 Bar*
- *Optional pressurised mains insertion*
- *On board data logger*
- *Monitored results can be read and stored remotely*
- *No consumable items*
- *Minimum maintenance*
- *Auto compensation for low level fouling*

An Overview

IN-SENSE is a mains water sensor system which provides four of the key characteristics of the supply. It continuously monitors water for turbidity, temperature, pressure and conductivity. This monitor works from a single point of entry and is ideal for in-pipe monitoring of the distribution network, treatment processes or industrial water quality.

IN-SENSE is designed and developed for practical and cost effective monitoring of water. Optionally, the monitor can be deployed into an active water mains, inserted into a pipe working at full water pressure.

The basic instrument collects the data from each of its sensors and logs it in its own database. This can be accessed using a PC to its RS232 or via GSM modem. The database can store up to 2000 samples so with 30 minute logging 40 days can be stored

Optional Features

- *GSM modem for remote data collection*
- *4-20mA outputs for legacy systems.*
- *Active mains insertion module.*
- *AC power supply*
- *Multiple In-Sense data collection and database*

Applications

- *Continuous monitoring of water in the distribution network - in particular it may be used to monitor at many different points in a distribution network.*
- *Monitor for potable water in treatment processes*
- *Industrial water quality monitoring*
- *Water quality compliance monitoring*

About IN-SENSE

IN-SENSE uses a variety of sensor technologies to make its measurements. Turbidity is measured optically and may be subject of to the build up of salts from the water. Within reasonable parameters, an automatic calibration system built into In-Sense compensates for this effect.

Conductivity is measured using electrodes in the water. Over time these will see the build up of dissolved salts and will eventually require maintenance. Conductivity is a function of temperature and In-Sense automatically compensates for this effect.

The embedded computer in In-Sense keeps track of time and date so that all data samples are time and date stamped.

In-Sense is the result of collaboration between DIVERSE Technologies and a major water company. It fulfils the original design requirements of minimum maintenance and low cost of ownership while providing the necessary range of data.

DIVERSE supplies a variety of instruments and consultancy expertise to the water industry.

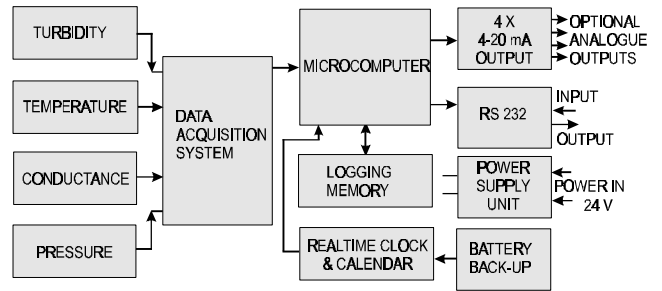
Installation of IN-SENSE

IN-SENSE can be installed at almost any point of the distribution network. The method of installation is based around the following simple procedure:

1. A collar is fitted to the chosen pipe section. This allows the pipe to be cut.
2. The valve behind the cutter allows the work to be carried out while the pipe remains under mains pressure.
3. A gate valve closes the pipe while the **IN-SENSE** monitor is fitted into the aperture.
4. Finally the valve is opened and the system is operational - its as simple as that!



In-Sense Block Diagram



Ordering Options

IN-SENSE Water monitor:	IN-SENSE-S
IN-SENSE Water monitor (long body):	IN-SENSE-L
Installation kit	IN-STALL
Serial software:	IN-SENS-PC-Serial
Remote software:	IN-SENS-PC-Remote

IN-SENSE Specification

- Temperature range:** 0 - 30 C accuracy +/- 0.25 C
- Conductivity:** 0 - 5 mS per cm accuracy +/-5% & +/-100 uS
- Turbidity:** 0.1 - 20 NTU accuracy +/-5% & +/-0.1 NTU
- Pressure:** 0 - 12 bar accuracy +/-100mB
- Repeatability:** +/- 5%
- Power:** Nominal 24V supply 100mA
- Size:** Diameter 60.0 mm Height 138.0 mm short body, 600mm long body. Long body required for mains pressure insertion.
- Enclosure:** Robust stainless 316 cylinder - some Delryn parts in contact with the water
- Interface:** Outputs: serial RS232. Optional current loop output 4-20mA 4 channels.
- Data Logging:** Up to 2000 data samples, recirculating each time and date stamped.
- Data Processing:** A samples are the result of an average of 16 taken in the last minute. System can be switched to moving average mode which averages over the last 8 samples.
- Sample Period:** 1 minute to 1 day in 1 minute steps.
- PC software options - Serial:** Collect and display data on PC.
- PC software options - Remote:** Collect data from a number of remote In-Sense units and log to a database.
- Operation:** 21 user commands given as single characters over the RS232.
- Calibration:** Each sensor can be individually calibrated using transfer standards - the calibration process embeds transducer linearity correction and applies span and offset correction.
- Environmental:** IP68, 0-30C operating
Continuous immersion
- Approvals:** CE

DIVERSE

Kingfisher House, High Green, Gt. Shelford, Cambridge CB2 5EG
 Tel: +44 (0)1223 84 44 44, Fax +44 (0) 1223 844 944
 Email: sales@diverse-technologies.net
 Web: http://www.diverse-technologies.net